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ABSTRACT

A study investigated the extent to which bottom-up and top-down conceptual frameworks of reading were held by primary grades teachers. In the first phase of the study, 66 teachers were given the Theoretical Orientation to Reading Profile (TORP), which was designed to reflect belief systems of reading instruction organized around a continuum from an emphasis on units of language smaller than words to an emphasis on units larger than words. In the second phase, 20 teachers whose TORP responses indicated a range of instructional emphases on the continuum were administered the Conceptual Framework of Reading Interview. This instrument was devised to elicit specific beliefs within the construct systems. Based on their responses, the teachers were identified as holding moderate or strong bottom-up or moderate or strong top-down conceptual frameworks. Analysis of the responses revealed that teachers with a strong bottom-up belief system tended to emphasize lower order units instructionally and to believe that students learn to read by learning decoding skills. Those with moderate bottom-up beliefs emphasized sounds, letters, and words instructionally. Moderate top-down teachers also believed that students learn to read by learning decoding skills; however, those holding both a moderate and strong top-down position believed that students learn to read by reading meaningful material. Those holding a strong top-down position emphasized higher order units instructionally. (FL)

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CONCEPTUAL FRAMEWORKS OF READING HELD BY TEACHERS

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Conceptual Frameworks of Reading Held by Teachers

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Research on teacher thinking is a relatively new approach to the study of teaching. In this approach to studying teaching, the mental processing underlying instructional behavior are investigated. Researchers taking this cognitive information-processing approach to studying the nature of teaching emphasize that before teacher educators can systematically influence teaching behavior, there is a need to understand the relationship between teachers' thinking and their behavior. (Clark and Yinger, 1978)

One approach to the study of teacher thinking is to view teachers as holding implicit theories or conceptual frameworks which guide instructional decision making. There are a limited number of studies which focus on organizing frameworks teachers use to make sense of the complex environment of their classrooms. Teachers' implicit theories of such aspects of teaching as social interaction in the classroom (Janesick, 1977), principles of teaching (Marland, 1977), and open education (Bussis, Chitemdem, and Amarel, 1976) have been investigated. The common thread in these studies is the belief that teacher thinking and teacher behavior are guided by a set of organized beliefs, often operating unconsciously. (Clark & Yinger, 1978) A study by Barr and Duffy (1978) suggests that the connection between a teacher's implicit

theory and his or her behavior is a relatively loose one, mediated by circumstances such as availability of resources, peer influence and student characteristics. More research is needed on the relationship between inplicit belief systems and instructional decision making during planning and interaction with students.

Teaching students to read is a salient part of the schools' curriculum which has been extensively researched. Also, there are a plethora of models of the reading process in the literature. Each model designer purports that his model is based on research and has implications for reading instruction. (See Singer & Ruddell, ed., Theoretical Models and Processes of Reading, 1976, for many examples of models of reading.) Teacher educators and authors of articles translate the various theoretical models and results of empirical studies into teaching practices for pre-service and in-service reading teachers. Besides obtaining input for knowledge and beliefs about how to teach reading from reading theory and research, it is assumed that reading teachers also draw from experience in constructing their belief systems of reading and reading instruction.

Recently Harste and Burke (1977), DeFord (1978), Mitchell (1978), and Barr and Duffy (1978) have conducted ground-breaking exploratory studies into teachers' implicit theories of reading and reading instruction and how these implicit theories influence instructional behavior. It is assumed by the researchers in these studies that reading instructional behavior, guided by implicit theories of reading instruction, influence students' reading behavior as well as students' conceptions of reading.

All of the studies to date look at how classroom teachers' implicit theories reflect models of reading instruction. None investigate teachers' implicit models of the learning to read process. Thus, there is a need to determine if teachers' implicit theories of learning to read reflect models of reading found in the literature.

In this study the writings of two theorists, S.J. Samuals and K. Goodman, were used as standards in comparing teachers' belief systems. The models of these two theorists were chosen because they each represent one of the two main types of information processing models. The Laberge and Samuals model is essentially a description of bottom-up processing (processing letters, then letter clusters, then words, then phrases, then sentences). The Goodman model is essentially a top-down model (higher order units, like sentences, can influence the processing of lower order units like words and letters). Also, both Samuals and Goodman have delineated instructional implications of their models. This study investigated the extent these two models were construct systems "inside the heads" of teachers. The construct systems were called Bottom-up and Top-down Conceptual Frameworks of Reading Acquisition after the two main types of information processing models. The purpose of this study , then, was to investigate the extent to which Bottom-up and Top-down Conceptual Frameworks of Reading are construct systems held by primary teachers.

Models of the Learning to Read Process

The major difference between this study and other studies of teachers' belief systems of reading and reading instruction is that this study investigated teachers' conceptions or theoretical frameworks of the

learning to read process and the other studies investigated conceptions of reading instruction. Harste and Burke identify teachers as holding Phonic, Skills or Whole Language Theoretical Orientations toward Reading. Researchers involved in the Conceptions of Reading Project at the Michigan Institute for Research on Teaching identify teachers as holding "content centered conceptions" (basal test and linear skills) and "pupil centered conceptions" (interest-based, natural language, and integrated curriculum models.) The definitions of each of these two sets of models and definitions of conceptions of reading instruction and are not conceptions of the learning to read process. Duffy and Metheny (1979) of the Michigan project address this issue:

> Our attempts of conceptualize reading beliefs initially focused on theoretical models of reading. However, such abstract models were difficult to adapt to field research in classrooms. We discovered we needed more concrete and pragmatic ways of conceptualizing reading beliefs. Subsequently, we conducted two literature searches of standard reading methods texts. From these, five general categories of beliefs about reading were identified: (1) basal textbook, (2) linear skills (such as Wisconsin Design), (3) interest-based (utilizing pupil selection of trade books), (4) natural language (including both psycholinguistics and language experience) and (5) integrated curriculum models...
> (Underlining added, p.1-2)

The Michigan Institute for Research on Teaching "conceptions of reading" were drawn from standard reading methods texts and thus are conceptions of reading methods or reading instruction and are not models of the learning to read process. Harste and Burke do not make this distinction, but their Phonic, Skills and Whole Language Theoretical Orientations toward Reading seem to be conceptions of reading instruction as are the Michigan Institute for Research on Teaching "conceptions of reading."

Use of Theoretical Literature and Research To Define Bottom-up and Top-down Conceptual Frameworks of Reading

Both theoretical literature and research on teachers' implicit theories of reading were used in defining the constructs Bottom-up and Top-down Conceptual Frameworks of Reading. In the next sections

1. the two general information processing models will be described;
2. the reading models devised by Samuels and Goodman (examples of the two general information processing models) will be compared;
3. the two kinds of teachers' conceptions of reading instruction found by the Michigan Institute of Researcher on Teaching will be described and then compared to the Samuels and Goodman models;
4. drawing from the models by Samuels and Goodman and the Michigan IRT conceptions of reading research, the Bottom-up and Top-down Conceptual Frameworks of Reading will be defined.

Two General Information Processing Models of Reading

Generally an information processing analysis assumes that a cognitive task can be understood by analyzing it into stages that proceed in a fixed order over time, beginning with sensory input and ending with some sort of output or response. There are two main types of information processsing models: bottom-up and top-down. By far the most common are bottom-up models. They are "data driven" models in that they describe the reader as starting with low level analysis of sensory input (features, letters, letter clusters, words) and proceed stage by stage to higher levels of linguistic analysis (sentences, paragraphs, selections). Rumelhart (1976) defines a pure bottom-up model as one with a series of stages, each corresponding to a level

of analysis in which no higher level can in any way modify or change the analysis at a lower level.

Top-down models view reading as "conceptually driven". These models emphasize that the reader has hypotheses regarding the meaning of the passage being read and uses the lower levels of analysis to "check these hypotheses out". Obviously, there are no pure top-down models because a reader must begin by focusing on print. Rumelhart (1976) defines top-down models as having the following properties: 1) higher stages of processing may be first; 2) higher stages influence lower level processing; 3) many stages operate in parallel and many levels may interact.

A Comparison of Two Models of Reading

In this study, two reading models which represent the two main types of information processing models were used as standards for comparison. This study focused on the writings of two theorists: S.J. Samuels and Kenneth Goodman. These two theorists differ in the way they model the main sequence by which readers process linguistic units. The Laberge and Samuels model is essentially a description of bottom-up processing and the Goodman model is essentially a top-down model. Yet both theorists in their model building have built in mechanisms accounting for both upstream effects (lower order processing influencing higher order processing) and downstream effects (higher order processing influencing lower order processing). Also, both Samuels and Goodman delineate instructional implications of their models.

Laberge and Samuels (1976) define reading as "transforming written patterns into meaning." (p.548) Goodman (1976a) states "Reading is a complex process by which a reader reconstructs, to some degree, a message encoded by a writer in graphic language." (p.472. Underlining added.) Both of definitions refer to decoding the print and obtaining meaning.

Samuels (1976) emphasizes that reading is a skill like driving a car or playing a piano while-Goodman (1976a & b) emphasizes that reading is a communication process like listening. By considering these analogies and to a lesser extent the definitions, it can be seen that these two theorists envision differently the role of the child learning to read. Goodman's frame of reference emphasizes that "the language user, though he may be a beginner as far as literacy is concerned, brings to the task of learning to read the sum total of his life's experiences and the language competencies he has already acquired." (1976a, p. 489) Goodman believes the child learning to read applies his linguistic repertoire of skills to printed language. The reader, Goodman emphasizes, is an active processor of information. Even when the child is learning to read he is not viewed by Goodman as acquiring a skill through instruction. In Goodman's view a child is not directly taught how to listen or to read but learns to reconstruct the meaning of what people say or write. Samuels (1976), on the other hand, states that "the student must be brought beyond accuracy to automaticity in decoding." (p. 323, Underlining added.) From Samuels' frame of reference, the learner is directly taught to decode written symbols. Samuels states that a child learning to read must practice decoding skills just as a student learning to play the piano must practice scales and other components needed to be able to play the piano proficiently.

Drawing from these beliefs about the sequence of readers' processing of linguistic units and the role of the learner, Samuels and Goodman make these statements about reading instruction:

> Samuels: On the basis of this model, we view reading acquisition as a series of skills ... Pedagogically, we favor the approach which singles out these skills for testing and training and then attempts to sequence them in appropriate ways. (Laberge and Samuels, 1976, p. 574. Underlining added.)
>
> Goodman: Sequencing of skill instruction in reading has often been strongly advocated by publishers and curriculum workers. But the reading process requires that a multitude of skills be used simultaneously. As we have indicated, many of these skills are already employed by the learner in listening. Any sequence will necessarily be arbitrary. (1976a, p. 494)
>
> Goodman: The child learning to read, like the child learning to speak, seems to need the opportunity to examine a large sample of language... (Goodman and Smith, 1973, p. 180)

Others in the "Goodman Camp"state:

> Smith: Children learn to read only by reading. (1973, p.195)
>
> Harste: Reading is best defined for instructional purposes as thinking stimulated by print. (Harste and Carey, 1979, p. 6)

Thus, Samuels believes that reading instruction should involve students in learning discrete skills. He thinks students need not only to become accurate but also automatic at decoding words. Samuels (1979) advises teachers to "give instruction on how to recognize words at the accuracy level..." and to "provide the time and motivation so that the student will practice these word recognition skills until they become automatic." (p.406) Although Samuels places importance on accurate word recognition, he does

not advocate the teaching practice of correcting each error when a student is reading orally. Because of his concept of automaticity of processing, he suggests teachers at time relax the demand for accuracy so that students will focus attention on larger units of language or "chunk" words into phrases. Samuels (1976) defines behavior as automatic when it can be performed without attention. He advocates that beginning readers be asked to read the same material several times. He states "The first few readings bring the material to the phonological level... Once this point is reached the student is able to switch attention to deriving meaning from what has been decoded." (Samuels, 1976, p. 325)

In contrast to Samuels, Goodman places little importance on the ability to accurately decode words. He stresses that words can best be recognized "within the flow of language" (Smith, Goodman, and Meredith, 1976,p.271) and that if a reader does not recognize a word in one context he may be able to recognize it in another. (Y. Goodman, 1975) Goodman thinks that a teacher should not interfere while a student is reading orally. After the child has completed the selection, words in which errors were made can be placed in a familiar context and the student can read the words in this context. (Y. Goodman, 1975)

It can be inferred from the Laberge and Samuels statement on page 8 that students need to be evaluated on their ability to perform discrete skills as well as their ability to use these skills when reading. Writers in the Goodman tradition take a different tack toward evaluation of reading performance. They feel students can be evaluated only on how they read a specific text within a specific context. Harste and Carey (1979) state, "The importance of context of situation in terms of understanding language processing is clear when one attempts to explain the divergent performance

of students..."(p. 11) Goodman (1967; Y. Goodman and Burke, 1972) also advocate that teachers use miscue analysis. A key assumption underlying the use of this diagnostic procedure is that oral readers do not make random errors, but rather that patterns of deviations from the text reflect whether the reader is making predominant use of graphonemic, syntactic or semantic cue systems. Thus, in miscue analysis the cue systems a reader tends to use as inferred by analysing deviations (errors) from the text. Goodman advocates having students "retell" what they recall from selections they have read. Students' retellings are judged for the degree of match to the information in the text.

Figure 1 summarizes the positions of Samuels and Goodman on the importance placed on decoding print, their analogies to reading, their descriptions of the reading process, and implications for reading/language arts instruction and evaluation. Samuels' model exemplifies a bottom-up position and Goodman's model exemplifies a top-down position.

Figure 1

A comparison of Bottom-up and Top-down Models of Reading as Exemplied in the Writings of Samuels and Goodman

	Samuels	Goodman
Importance placed on decoding print	Places importance on decoding or rapid recognition of words as necessary for comprehension.	Places little importance on decoding words. Stresses that a student who does not recognize a word in one context may know the word in another context.
Analogies of reading made	Emphasizes that reading is a skill like driving a car.	Emphasizes that reading is a communication process like listening.
Description of the reading process	Models the reader's main sequence of processing as processing lower order linguistic cues and then higher order linguistic cues.	Models the reader's main sequence of processing as processing higher order linguistic cues to make hypotheses about processing of lower order linguistic cues.
Reading/language arts instruction	Thinks that the majority of reading instructional time should involve students in abundant practice in discrete skills needed to read. Also stresses that decoding skills not only need to be accurate but automatic.	Thinks that the majority of language arts instructional time should involve students in meaningful activities in which students speak, listen, read and write.
Evaluation of reading ability	Thinks that students need to be evaluated on discrete skills as well as the integration of these skills when reading.	Thinks that students can be evaluated only on how they read a specific text within a specific context.

Two Kinds of Teachers' Conceptions of Reading Found by Michigan IRT Researchers

In the previous section the reading models of S.J. Samuels and K. Goodman were compared. These two models are exemplars of bottom-up and top-down information processing models. In this section, two kinds of teachers' conceptions of reading instruction found by Michigan Institute for Research on Teaching researchers will be described and compared to the Samuels and Goodman models. Both of these sources were used in defining the Bottom-up and Top-down Conceptual Frameworks of Reading.

The Conceptions of Reading Project at the Michigan Institute for Research on Teaching is investigating teacher conceptions of reading instruction as they influence instructional practice. Through a search of the reading methods literature, the IRT researchers found support for the existence of the following five major conceptions of reading instruction: basal text, linear skills (such as Wisconsin design), natural language (including both psycholinguistics and language experience), interest based (utilizing pupil selection of trade books), and integrated curriculum models. (Belli, Blom, & Reiser, 1977)

Analysis of teachers' responses to the Propositional Inventory (a Likert scale), to a modified version of the Rep test, as well as conclusions drawn in ethnographic field studies indicated teachers generally do not hold one of these conceptions of reading instruction. Rather, teachers tended to respond in two more general categories---categories the IRT researchers labeled "content centered" and "pupil centered." "Content centered" encompasses basal text and linear skills conceptions. "Pupil centered" conceptions encompasses natural language, interest, and integrated curriculum models. (Bawden, Burke, and Duffy, 1979)

The "content centered" conceptions (basal text and linear skills conceptions) emphasize the importance of teaching word recognition, discrete skills and the integration of these skills when reading. Thus, they seem to be the models of conceptions of reading instruction most likely to be held by teachers with bottom-up models of reading . In other words, teachers who believe students need to be able to process lower order linguistic cues in order to process higher order linguistic cues hold basal text and linear skills conceptions of reading instruction.

On the other hand, the "pupil centered" conceptions emphasize involving students in meaningful reading experiences. The goal of teachers holding a natural language model is to involve students in meaningful activities in which students speak, listen, read and write. Teachers holding integrated curriculum models have as a goal to teach important subject matter or curriculum and give students insights into the reading process needed in order for the students to learn this subject matter content. Teachers holding interest based conceptions see importance in students chosing their own reading material and in students enjoying the material they read.

These models, natural language, integrated curriculum, and interest based models, seem to be the models or conceptions of reading instruction most likely to be held by teachers with top-down models of reading, i.e. teachers who believe students can use meaning cues to determine words and that reading for meaning should be the main focus of all reading instructional situations.

Figure 2 summarizes the relationship between the conceptions of reading acquisition process (bottom-up and top-down) and the Michigan IRT conceptions of reading instruction ("content centered" and "pupil centered").

Figure 2

The Relationship Between the
Conceptions of Reading Acquisition Process and
The Michigan IRT Conceptions of Reading Instruction

Conceptions of the Reading Acquisition Process		Michigan IRT Conceptions of Reading Instruction
teachers who hold a bottom-up model of reading acquisition	are likely to hold	"content centered" models of reading instruction: - basal text - linear skills
teachers who hold a top-down models of reading acquisition	are likely to hold	"pupil centered" models of reading instruction: - natural language - integrated curriculum - interest based

Definitions of the Bottom-up and Top-down Conceptual Frameworks of Reading Acquisition

In this section, drawing from the reading models devised by Samuels and Goodman and the Michigan IRT conceptions of reading research, the Bottom-up and Top-down Conceptual Frameworks of Reading will be defined.

The term "model of reading" has been used in this study to refer to models of reading found in the literature. The term "conceptual framework of reading " will be used to refer to implicit theories of reading acquisition held by teachers.

In this study, a Bottom-up Conceptual Framework of Reading is defined as one in which the student first processes lower order units (letter, letter clusters, words) before he is able to process higher order structures (sentences, paragraphs, selection). Teachers who hold Bottom-up Conceptual Frameworks of Reading believe that students learning to read must process lower order units before they are able to process higher order structures. In other words, these teachers believe students must recognize each word in a selection to be able to comprehend the selection. Based on this belief, these teachers view reading acquisition as mastering and integrating a series of word recognition or decoding skills. Sounds, letters, letter clusters and words are the units of language emphasized instructionally. Because recognizing each word is believed to be an essential pre-requisite to being able to comprehend the passage, accuracy in recognizing words is seen as important. Teachers holding a Bottom-up Conceptual Framework may follow the practice of correcting oral reading errors. Or they may espouse practices similar to those advocated by Samuels who stresses that correcting oral reading errors disrupts fluency. They may use other ways to get students to be accurate in word recognition. A teacher holding this Conceptual Framework may want students to read a passage over and over or to read orally into a tape recorder to develop accurate word recognition.

In terms of reading evaluation, teachers who hold a Bottom-up Conceptual Framework of Reading think that students need to be tested on discrete skills as well as the integration of these skills when reading.

The distinctive aspect of the Top-down Conceptual Framework of Reading for this study is that in a Top-down Conceptual Framwork the higher levels of processing (sentences, paragraphs, selection) influence lower levels of processing (letters, letter clusters, words). A teacher who holds a Top-down Conceptual Framework beleives that a student learning to read uses syntactic and semantic cues (higher order cues) to determine words or letters. Based on this belief, reading for meaning is considered an essential component of all reading instructional situations.

In this view, the majority of reading/language arts instructional time should involve students in meaningful activities in which they read, write, speak and listen. Teachers holding a Top-down Conceptual Framework may have as their main goal to teach important subject matter or curriculum. These teachers would give students insights into the reading process needed in order for the students to learn this subject matter content. Or the teacher holding a Top-down Conceptual Framework of Reading may emphasize the importance of students chosing their own reading material and of students enjoying the material they read.

Sentences, paragraphs, and selections are the units of language emphasized instructionally. Since recognizing each word is not considered an essential pre-requisite to comprehending the passage, word errors during oral reading may not be corrected. Teachers holding a Top-down Conceptual Framework may advocate non-interference during oral reading as Goodman does or they may encourage a student to use the context or meaning of the passage to determine unrecognized words. For example, the child may be taught a

strategy to use on his own when he meets an unknown word. For example, the teacher may help the child in answering the question "What do you do when you come to a word you don't know?" The child learns to read the rest of the sentence and then comes back to see what word "makes sense, sounds right, and has those letters." Concerning reading evaluation, teachers holding a Top-down Conceptual Framework of Reading Acquisition would test a student on how he/she read a specific text. They would determine in some manner the amount of information the student obtained through reading the specific text. Also, teachers holding a Top-down Conceptual Framework of Reading may use some form of miscue analysis, i.e. analyze errors to determine the extent to which students use context clues and/or phonic clues.

PROCEDURES

Overall Plan of the Study

In Phase 1 of the study, sixty-five first, second, and third grade teachers were given the Theoretical Orientation to Reading (DeFord, 1978), a forced choice Likert scale with response items concerning beliefs about the value of specific reading instructional practices. These reading instructional practices emphasize differing units of language (sounds, letters, words, sentences, selections) The purpose of this phase was to screen teachers regarding their belief systems of implicit theories of reading and reading instruction as emphasizing instructionally units of language along a continuum from lower order linguistic units (letters, letter clusters, words) to higher order linguistic units (sentences, paragraphs, selections).

In Phase 2 of the study twenty primary teachers were interviewed. These twenty teachers had responded to the Theoretical Orientation to Reading Profile in a manner which indicated their belief systems toward reading represented different instructional emphases along a continuum of lower order linguistic units to higher order linguistic units. The teacher interview was designed to determine the extent that Bottom-up and Top-down Conceptual Frameworks of Reading were implicit construct systems held by teachers.

Phase 1 Procedures

Subjects

Sixty-six first, second, and third grade teachers from northeastern Ohio were given the Theoretical Orientation to Reading Profile (TORP), (DeFord, 1978) , a force-choice Likert scale. The items on the TORP were designed to reflect belief systems of reading instruction organized around a continuum from a emphasis on units of language smaller than words to an emphasis on units of language larger then words.

Procedure

The teachers were asked to respond to the TORP in the manner prescribed by DeFord (1978), i.e. the teachers were asked to circle the response (SA 2 3 4 SD) that indicated their feelings about each of the 28 items concerning reading instructional practices. These reading instructional practices emphasize differing units of language (sounds, letters, words,sentences, selections). The teachers were asked to force themselves to make a decision on items which they found difficult to answer.

Phase 2 Procedures

Subjects

Twenty of the sixty-six teachers who took the TORP in Phase 1 were interviewed. The TORP scores of these twenty teachers reflected the whole range of the distribution in the Phase 1 analysis, i.e. these twenty teachers had responded to the Theoretical Orientation to Reading Profile in a manner which indicated their belief systems toward reading represented

different instructional emphases along a continuum of lower order linguistic units (letters, sounds, words) to higher order linguistic units (sentences, paragraphs, selections).

Development of the Conceptual Framework of Reading Interview

Bussis, Chittemden, and Amarel (1976) in Beyond Surface Curriculum describe an interview study of teachers' understandings of open education. They found that questions phrased at a high level of generalization tended to elicit slogans and generalities unrealing of the teachers' own thoughts and perceptions. They stated that the type of question that more readily brought out personal constructs was one posed with concrete reference to classroom materials, to classroom practices or to classroom behaviors. They report that the teachers could develop and communicate their abstract and theoretical ideas when responding to questions that make reference to the ongoing life of the classroom.

With this criteria in mind, interview questions were devised. The Bottom-up and Top-down Conceptual Frameworks of Reading as defined previously provided a framework for constructing the interview questions. The interview questions were designed to elicit beliefs about the main sequence of processing of linguistic units during the learning to read process, the allocation of time to different activities during reading/language arts instruction, the importance placed on decoding print and on comprehension, and evaluation of reading ability. (See Appendix A for the Conceptual Framework of Reading Interview.) The interview questions were devised over a period of six months in which the investigator interviewed approximately twenty teachers.

Conducting the Conceptual Framework of Reading Interviews

The Conceptual Framework of Reading Interviews were audiotaped and later analyzed, most of the interviews were conducted in the interviewees' classrooms after school hours. Several of the interviews took place in the home of the interviewees.

Rationale for Method of Analysis of Conceptual Framework of Reading Interview

The investigator patterned the method of analysis of the interview responses after the method used by the Level of Use Interview (Loucks, Newlove and Hall, 1975) developed at the University of Texas Research and Development Center. The Conceptual Framework Interview (as well as the Level of Use Interview) was developed in such a way that questions were asked about various independent yet related teaching behaviors and the rationale for these teaching behaviors. A Conceptual Framework of Reading (Strong Bottom-up, Moderate Bottom-up, Moderate Top-down, or Strong Top-down) was established using ratings on these independent teaching behaviors. MacCoby and MacCoby (1954) point out that if a number of questions are asked that differ in form and content but are related in a predicted meaningful or logical fashion (as they are through the operational definitions of the Conceptual Frameworks of Reading), then a high correlation between these questions indicate that they tap a common characteric of the individual's belief system. It has been found that an individual's responses to the interview questions are highly correlated. For example, if a teacher says she/he feels the major amount of instructional time should be spent on learning sound-letter associations and blending these sounds into words, she/he is likely also to say that of three readers, Reader C is the best reader

because the error the reader made was graphically similar to the printed word. Each of these is a bottom-up response; each is a response to a question asking about an independent behavior. Therefore, when such correspondences are present, it can be assumed with a high degree of certainty that the interview responses measure what they purport to measure, the Conceptual Framework of Reading held by the teacher.

Development of Guidelines for Rating the Conceptual Framework of Reading Interviews

Guidelines for rating the interview responses to each of the ten interview questions were devised by the investigator. These guidelines were not determined apriori to the interviews. Rather they were devised by comparing the teachers' actual interview responses to the operational definitions of Bottom-up and Top-down Conceptual Frameworks of Reading.

Two reading educators who had conducted research on conceptions of reading were mailed these Guidelines for Rating the Conceptual Framework Interview and the definitions of the Bottom-up and Top-down Conceptual Frameworks of Reading. The guidelines were changed as a result of feedback given by these educators. The final form of the Guidelines for Rating the Conceptual Framework of Reading Interview is in Appendix B.

Two Analysis Systems for the Conceptual Framework of Reading Interview

The interviews were rated in two ways:

1) on the teacher's descriptions of behaviors and the rationales for those behaviors given, and

2) on the assumptions about reading acquisition mentioned in the interview by the teacher.

In the analysis of descriptions of behavior given, the raters used the Guidelines for Rating the Conceptual Framework of Reading Interview to rate each of the twenty teachers' responses to each of the ten questions as a bottom-up response(BU), a top-down response(TD), a non-reading-rationale response (NRR), or not-enough-information-given response(NI). Responses were rated as a bottom-up responses if they were consistent with the operational definitions of the Bottom-up Conceptual Framework of Reading, e.g. "My major instructional goal is to increase students ability to blend sounds into words." Responses were rated as top-down if they were consistent with the operational definitions of the Top-down Conceptual Framework of Reading, e.g. "My major instructional goal is to increase students ability to read independently by encouraging students to read library books or books easy enough for them to read independently." Responses were rated as non-reading rationale responses when the teacher gave a rationale for behavior which was not related to beliefs about reading acquisition (e.g. "I don't correct a child while he is reading orally because it is too frustrating for the child if I do so.")Responses were rated as not-enough - information (NI) when the teacher gave a response which did not give enough information for the response to be rated as bottom-up or top-down, e.g. "I tell the student to figure out the word." such a response needs to be probed during the interview for "How should the student figure it out?"

The raters assigned each interviewee one of the following overall Conceptual Frameworks: Strong Bottom-up, Moderate Bottom-up, Moderate Top-down, Strong Top-down. The following system was used:

	rating
If a teacher gave exclusively - bottom-up responses (BU) - non-reading rationale responses (NRR) - not-enough-information responses (NI)	Strong Bottom-up

If a teacher gave exclusively — Strong Top-down

- top-down responses (TD)
- non-reading rationale responses (NRR)
- not-enough-information responses (NI)

If a teacher gave mostly bottom-up response (BU) but gave some — Moderate Bottom-up

- top-down responses
- non-reading-rationale responses (NRR)
- not-enough-information responses (NI)

If a teacher gave mostly top-down responses (TD) but gave some — Moderate Top-down

- bottom-up responses (BU)
- non-reading rationale responses (NRR)
- not-enough-information responses (NI)

In the second analysis system, teachers' interview responses were also rated on whether or not they mentioned three bottom-up and three top-down beliefs about the learning to read process at any point in the interview. This rating system was used to determine the extent each teacher saw connections between her/his classroom behavior and basic assumptions or beliefs about the learning to read process.

The basic beliefs or assumptions were the following.

Bottom-up	Top-down
Mentioned the use of word and sound-letter cues exclusively, when asked in different ways what a student should do when he/she comes to an unknown word.	Mentioned that students can use meaning and grammatic cues to determine unknown words.
Mentioned the importance of recognizing the words or being able to sound out the words in a selection to be able to read a selection.	Mentioned that a student can understand a selection without being able to recognize every word in that selection.

Bottom-up	Top-down
Mentioned the idea that students learn to read by learning decoding skills.	Mentioned that students learn to read by reading.

Inter-rater reliability estimates were established on the two analysis systems.

ANALYSIS

Phase 1 Analysis

Research Question I: What is the distribution of scores of the primary teachers that responded to the decontextualized items of the Theoretical Orientation to Reading Profile along a continuum emphasizing instructionally lower order linguistic units to higher order linguistic units?

Sixty-six first, second, and third grade teachers from two school systems in northeast Ohio were given the Theoretical Orientation to Reading Profile (TORP). The items on the TORP were designed to reflect belief systems about instruction organized around a continuum from an emphasis on units of language smaller than words to an emphasis on units of language larger than words. Each teacher selected one of five responses ranging from "strongly agree" (1) to "strongly disagree" (5) indicating their feelings to 28 statements about reading and reading instruction. The numeric value of the responses was used in the statistical analysis.

In the analysis using the TORP responses, a total score system devised by DeFord was used. This system has a total score range of 28 to 140. If a teacher responded to all 28 items in an extreme manner emphasizing lower order linguistic units instructionally he/she would receive one point for each response or a total of 28 points. Likewise, if a teacher responded to all 28 items in an extreme manner emphasizing higher order linguistic units

he/she would receive 5 points for each response or a total of 140 points.

The total scores on the Theoretical Orientation to Reading Profile of the sixty-six teachers were determined. The scores ranged from a low of 52 to a high of 115. The mean of the distribution was 73.47, the median was 72.50, and the standard deviation was 11.15. The scores did not cluster in two groups (as did the teachers in DeFord's study) but were distributed in a curve similar to the normal curve. The majority of scores in the distribution of the present study cluster around the mean (73.47) and median (72.50), with approximately equal number of scores one standard deviation above and below the mean.

Phase 2 Analysis

Research Question 2: To what extent the Bottom-up and Top-down Conceptual Frameworks of Reading construct systems held by teachers?

In Phase 2 of the study the investigator gave the Conceptual Framework of Reading Interview to twenty teachers. The Conceptual Framework of Reading Interview was designed to elicit beliefs about the learning to read process. Operationally, the investigator asked the following question:

> Does the Conceptual Framework of Reading Interview elicit constructs of the learning to read process held by teachers?

To answer this question three areas were considered:

A. Identifying teachers as holding specific Conceptual Frameworks of Reading;

B. The extent the Conceptual Framework of Reading Interview elicits beliefs about the learning to process;

C. Some significant issues raised by teachers during the Conceptual Framework of Reading Interview.

Identifying Teachers As Holding Specific Conceptual Frameworks of Reading

In identifying teachers as holding specific Conceptual Frameworks of Reading, first will be presented the analysis of the responses to ten questions asking for descriptions of behavior and rationales for these behaviors given during the Conceptual Framework of Reading Interviews. Second, the analysis of the assumptions about the learning to read process mentioned at any point in the interviews will be discussed. Third, the relationship between the descriptions of behavior and assumptions mentioned about the learning to read process will be presented. Finally, inter-rater reliability estimates of the two analysis systems will be given.

By analyzing responses to ten questions, each of the twenty teachers interviewed could be identified as holding either a Strong Bottom-up, Moderate Bottom-up, Moderate Top-down, or a Strong Top-down Conceptual Framework of Reading. Each of these ten questions asked for descriptions of teaching behavior and rationales for these behaviors. The teacher were operationally defined as holding these Conceptual Frameworks using criteria on page of this paper.

The table below shows the number and percentage of teachers rated as holding Strong Bottom-up, Moderate Bottom-up, Moderate Top-down, and Strong Top-down Conceptual Frameworks of Reading.

	number	percentage
Strong Bottom-up	4	20%
Moderate Bottom-up	5	25%
Moderate Top-down	7	35%
Strong Top-down	4	20%

Table 1 shows the number of interview responses rated by the inventigator as bottom-up, top-down, non-reading rationale and not-enough information-given for each of the twenty teachers interviewed.

The investigator looked critically at the interviews of the twenty individual teachers concerning:

1. the extent the construct systems of the learning to read process were internally consistent, and
2. the extent and how their construct systems of the learning to read process differed from the extreme or strong forms of the Conceptual Frameworks of Reading.

Seven teachers or 35% of the teachers rated as Strong Bottom-up and Strong Top-down obviously gave responses which were internally consistent and conceptually related to either the Bottom-up or the Top-down Conceptual Framework of Reading. These teacher gave no inconsistent responses: all of their responses which dealt with their ideas about reading were either rated as bottom-up or all were rated as top-down. (An inconsistent response for a basically bottom-up teacher is a top-down response; an inconsistent response for a basically top-down teacher is a bottom-up response.) The belief systems of these teachers were essentially those defined as Bottom-up and Top-down Conceptual Framework of Reading as defined previously.

Teachers rated as holding Moderate Bottom-up and Moderate Top-down Conceptual Frameworks of Reading gave responses rated as both bottom-up and top-down. By analyzing the responses of the teachers rated as holding Moderate Bottom-up and Moderate Top-down Conceptual Frameworks of Reading, the investigator found some patterns of beliefs held by moderate bottom-up teachers and by moderate top-down teachers. In the next sections moderate bottom-up and moderate top-down positions will be described drawing from interview responses.

Table 1

Number of Each Type of Response Given
In the Interview by Each Teacher

	teacher no.	bottom-up responses	top-down responses	non-reading rationale responses	not-enough-information-given response
Strong Bottom-up	2	9	0	0	1
	45	5	0	2	3
	48	9	0	1	0
	49	7	0	2	1
Strong Top-down	36	0	9	1	0
	64	0	8	0	2
	65	0	7	0	3
	66	0	7	0	3
Moderate Bottom-up	4	8	2	0	0
	6	8	2	0	0
	7	6	2	2	0
	11	7	2	0	0
	53	5	3	1	1
Moderate Top-down	9	2	6	2	0
	14	2	6	0	2
	21	2	6	1	1
	22	3	7	0	0
	28	2	7	1	1
	35	3	7	0	0
	40	3	7	0	0

The Moderate Bottom-up Positions

Teacher A (no.7) rated as holding a Moderate Bottom-up Conceptual Framework of Reading gave a majority of bottom-up responses. For example, she believes students need to be tested on their knowledge of consonant sounds, vowel sounds, and if they have a sight vocabulary. However, the following responses which she gave were rated as top-down:

1. her ranking of Reaction to Silent Reading as the most important part of the Directed Reading Procedure, and

2. her description of what a student should do when he/she comes to an unknown word during USSR. (Sustained Silent Reading).

As she discussed her reading instructional practices, Teacher A emphasized letter and word level cues most and generally mentioned them first when responding to the interview questions. But this teacher does place importance on students focusing on higher levels of language (sentences, selections) and comprehending what they read. Her response to the question concerning what a student should do during USSR when he/she comes to an unknown word seems to typify her position:

> (Students should) sound it out. They know their vowel sounds---if they don't know which pattern they can try both long and short. If that doesn't help, they can read the whole sentence and see if they can guess the meaning of the sentence. If that doesn't help, they can look at the picture. If that doesn't help they can skip the sentence and read the next.

Notice this teacher emphasizes letter and word level cues first and discusses them fairly extensively in this response. But she thinks that if this approach doesn't work the student should try to use higher order cues (sentence and selection cues).

Teacher B (no.4) construct systems of the learning to read process also exemplifies a moderate bottom-up position. All of her responses concerning the learning to read process were rated as bottom-up, except that she gave top-down responses to two questions concerning:

1. the most important reading instructional activity, and
2. her rating of the best reader when shown their oral reading errors.

She stated that the most important instructional activity was "to read by themselves, to read to learn new information." However, it was clear from responses in other portions of the interview, that in order for students to be able to "read by themselves and to read to learn", the students "must have skills to learn to read". This teacher defined skills as knowing sound-letter associations and blending these sounds into words.

This teacher, then, took a basically bottom-up position (a student learns to read by learning word attack skills), but she thought that once students had the skills needed she saw importance in activities involving reading for meaning. The construct system of Teacher B as well as that of Teacher A described in this section exemplify a moderate bottom-up position.

The Moderate Top-down Position

Teacher C (no.14) generally took a top-down position. She stressed in more than one responses the importance of getting her students to enjoy reading, to read independently and to comprehend what they read. When a student makes an oral reading error she does not interfere immediately but waits until after the student has completed a portion of the text and asks if the part of the text with the error makes sense to the student. Further, when a student comes to an unknown word during Sustained Silent Reading she hopes that the student uses the sense of the story as well as letter-sound cues. These all are top-down responses.

On the other hand, teacher C places much instructional emphasis on words. She emphasized the importance of introducing vocabulary before students read a selection. She even mentioned the bottom-up assumption: "If students don't

know the words, they can't read the story." In sum, Teacher C generally takes a top-down position in emphasizing reading for meaning, but she also sees importance in her students recognizing words.

Teacher D (no.9) takes a similar moderate top-down position. He calls comprehension "the blood and guts of reading." Though the majority of his responses are rated as top-down, he too places importance on introducing vocabulary words. He adds that working on vocabulary words. He adds that working on vocabulary does not only include word recognition but also knowing the meaning of the words. Also, he wants students to figure out new vocabulary words from context.

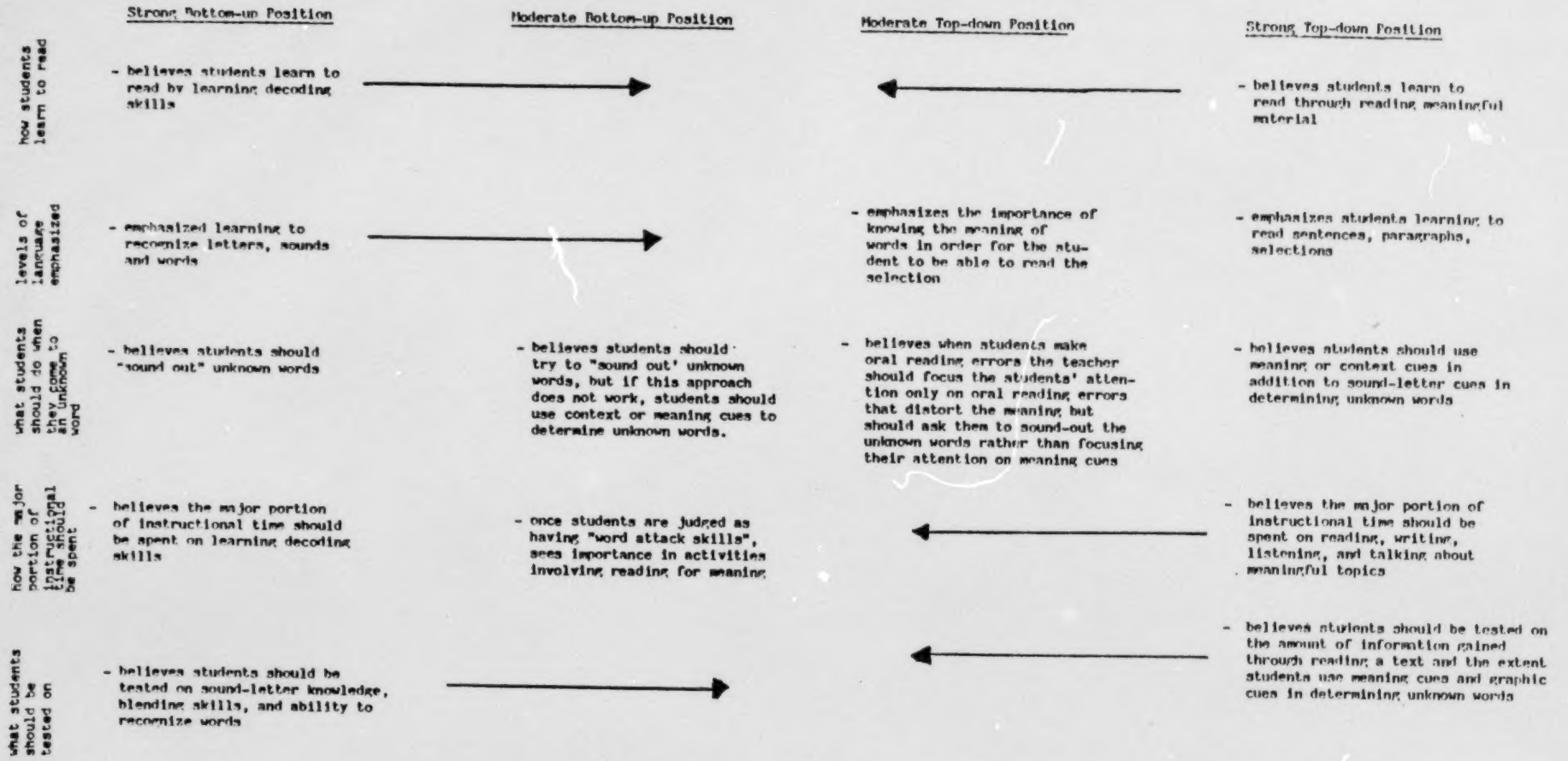
Another moderate top-down position is typified by Teacher E. (no. 40). The majority of her responses are rated top-down: she stresses the importance of reading for meaning in instructional situations in most of her responses. If a student makes an oral reading error she would give him/her the word if it changed the meaning of the sentence. However, she would often have a student "sound the word out" after reading, and if a student didn't know a word she would help him/her"sound it out." These are both bottom-up responses.

Several of the Moderate Top-down teachers took a similar position: they would focus a students' attention only on errors that distort the meaning, but these teachers do not encourage the students to use meaning cues to determine unknown words. Rather, they focus the students' attention on letter-sound cues to determine unrecognized words.

In these two sections moderate bottom-up and moderate top-down positions or patterns of beliefs found in the interview data were described. These patterns of beliefs of the learning to read process held by the four groups of teachers can be arranged on a continuum from strong bottom-up beliefs to moderate

Figure 3

Continuum of Specific Conceptual Frameworks of Reading


Strong Bottom-up Position
Moderate Bottom-up Position
Moderate Top-down Position
Strong Top-down Position
how students learn to read
- believes students learn to read by learning decoding skills
- believes students learn to read through reading meaningful material
levels of language emphasized
- emphasized learning to recognize letters, sounds and words
- emphasizes the importance of knowing the meaning of words in order for the student to be able to read the selection
- emphasizes students learning to read sentences, paragraphs, selections
what students should do when they come to an unknown word
- believes students should "sound out" unknown words
- believes students should try to "sound out' unknown words, but if this approach does not work, students should use context or meaning cues to determine unknown words.
- believes when students make oral reading errors the teacher should focus the students' attention only on oral reading errors that distort the meaning but should ask them to sound-out the unknown words rather than focusing their attention on meaning cues
- believes students should use meaning or context cues in addition to sound-letter cues in determining unknown words
how the major portion of instructional time should be spent
- believes the major portion of instructional time should be spent on learning decoding skills
- once students are judged as having "word attack skills", sees importance in activities involving reading for meaning
- believes the major portion of instructional time should be spent on reading, writing, listening, and talking about meaningful topics
what students should be tested on
- believes students should be tested on sound-letter knowledge, blending skills, and ability to recognize words
- believes students should be tested on the amount of information gained through reading a text and the extent students use meaning cues and graphic cues in determining unknown words

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bottom-up beliefs to moderate bottom-up beliefs to moderate top-down beliefs to strong bottom-up beliefs. Figure 3 summarizes the positions of teachers rated as holding Strong Bottom-up, Moderate Bottom-up, Moderate Top-down, and Strong Top-down Conceptual Frameworks of Reading on such a continuum.

Not all of the construct systems of the teachers rated as holding Moderate Bottom-up and Moderate Top-down could be clearly described as being internally consistent and as relating to the Bottom-up and Top-down Conceptual Frameworks as the examples given in the previous sections. However, no teacher made statements which contradicted his or herself, i.e. no teacher seemed to have conflicting beliefs. Rather when teachers gave both bottom-up and top-down responses it seemed as if these teachers had not seen connections between the issues involved. An example of this was given in describing Teacher E's beliefs. She generally emphasized reading for meaning and she only was concerned about oral reading errors which distorted the meaning of the passage. But she did not extend the logic one step further to encourage students to use meaning cues to determine unrecognized words. Rather she encouraged students to use sound-letter cues exclusively in meeting unrecognized words.

Assumptions About the Learning To Read Process

In the previous sections, the analysis of the responses to ten questions asking for descriptions of behaviors and rationales for these behaviors given during the Conceptual Framework of Reading Interviews was presented. A second analysis system was also conducted: the assumptions mentioned about the learning to read process were noted. The results of this second analysis will be discussed in this section.

The assumptions about the learning to read process mentioned in the interviews were noted to determine the connections teachers perceived between instructional practices advocated and assumptions made about the learning to read process.

The teachers varied in the extent to which they mentioned the following assumptions about the learning to read process:

<u>bottom-up assumptions</u>

a. mentioned the use of word and sound-letter cues exclusively, when asked in different ways what a student should do when he/she comes to an unknown word.

b. mentioned the importance of recognizing words of being able to sound out each word in a selection to be able to read the selection.

c. mentioned that a student learns to read by learning decoding skills

<u>top-down assumptions</u>

d. mentioned that a student can use meaning and grammatic cues to determine unknown words.

e. mentioned that a student can understand a selection without being able to recognize every word in that selection

f. mentioned that a student learns to read by reading.

These assumptions may have been mentioned at any point in the interview and were not responses to specific questions. The number of these assumptions mentioned by individual teachers ranged from 0 to 3. Table 2 gives the number of bottom-up and top-down assumptions mentioned during the interview by each of the twenty teachers.

Table 3 gives the number of times each of these assumptions was mentioned by individual teachers grouped in the four different kinds of teachers.

The interview was set up in such a way that each teacher's belief about what cues a student should use when he/she comes to an unknown word was

Table 2

Number of Bottom-up and Top-down Assumptions Mentioned during the Interview by Each Teacher

	teacher no.	number of bottom-up assumptions mentioned	number of top-down assumptions mentioned
Strong Bottom-up	2	3	0
	45	1	0
	48	2	0
	49	1	0
Strong Top-down	36	0	3
	64	0	2
	65	0	2
	66	0	1
Moderate Bottom-up	4	3	0
	6	1	1
	7	1	1
	11	2	0
	53	1	0
Moderate Top-down	9	0	1
	14	1	1
	21	0	1
	22	0	1
	28	2	0
	35	0	2
	40	1	2

Table 3

Number of Times Each Assumption was Mentioned
By the Four Kinds of Teachers

	assumptions	number of times mentioned: Strong Bottom-up	Moderate Bottom-up	Moderate Top-down	Strong Top-down	total
bottom-up assemptions	a.	4	3	1	0	8
	b.	2	3	2	0	7
	c.	1	2	1	0	4
top-down assumptions	d.	0	2	6	4	12
	e.	0	0	1	2	3
	f.	0	0	1	2	3

elicited in different ways. Several of the Conceptual Framework of Reading Interview questions inquired about instructional practices relating to this. Thus, all of the teachers interviewed either mentioned assumptions A. "Students should use word and sound-letter cues exclusively when he/she comes to an unknown word" or assumption D. " A student can use meaning and grammatic cues to determine unknown words."

As would be expected, then, assumptions A and D were the most mentioned assumptions. Assumption D was mentioned by 12 teachers and assumption A was mentioned by 8 teachers. The next most mentioned assumption was assumption B. "A student must be able to recognize each word or be able to sound out each word in a selection to be able to read the selection". This assumption was mentioned by 7 teachers.

The Relationship Between Descriptions of Behavior and Assumptions Mentioned

In the previous sections, the investigator presented the analysis of the responses to ten questions asking for descriptions of behaviors and rationales for these behaviors given during the Conceptual Framework of Reading Interviews. Second, the analysis of the assumptions about the learning to read process mentioned in the interviews was discussed. In this section the relationship between the descriptions of behaviors and assumptions mentioned about the learning to read process will be analyzed.

Each of the twenty teachers interviewed were operationally identified as holding Strong Bottom-up, Moderate Bottom-up, Moderate Top-down, and Strong Top-down Conceptual Frameworks of Reading through analysis of responses to ten questions concerning descriptions of behaviors and the rationales for these behaviors given. Through a second analysis the assumptions about the

learning to read process mentioned at any point during the interview were tabulated. Teachers identified as holding a Strong Bottom-up Conceptual Framework of Reading (identified through analysis of descriptions of behaviors) mentioned only bottom-up assumptions. Likewise, teachers holding Strong Top-down Conceptual Frameworks of Reading (identified through analysis of descriptions of behavior) mentioned only top-down assumptions. Strong Top-down teachers mentioned slightly more top-down assumptions than Strong Bottom-up teachers mentioned bottom-up assumptions.

Moderate Bottom-up and Moderate Top-down teachers mentioned both kinds of assumptions during the interviews. As groups, Moderate Bottom-up teachers mentioned more Bottom-up assumptions and Moderate Top-down teachers mentioned more top-down assumptions. As individuals the Moderate Bottom-up teachers mentioned the same number or more bottom-up assumptions than they did top-down assumptions. As individuals all the Moderate Top-down teachers mentioned the same number or more top-down assumptions than they did bottom-up assumptions except for one teacher. This teacher, (no. 28), rated as holding a Moderate Top-down Conceptual Framework of Reading through analysis of her responses to the ten questions, mentioned two bottom-up assumptions and no top-down assumptions.

Inter-rater Reliability

Inter-rater reliability estimates of .95 and .73 were established for the two analysis systems: 1) the overall ratings of Strong Bottom-up, Moderate Bottom-up, Moderate Top-down, and Strong Top-down Conceptual Frameworks, and 2) the mention of beliefs or assumptions about the learning to read process, respectively.

Extent Teachers Respond with Beliefs About the Learning to Read Process in the Interviews

A second area to be examined in determining if the Conceptual Framework of Reading Interview elicits constructs of the learning to read process will be addressed in this section: The investigator considered the extent to which teachers responded with beliefs about the learning to read process in the interview.

In doing this, the extent teachers gave responses in the interview which did not reflect their beliefs about reading acquisition were analyzed. The responses to the interview questions were rated as 1) reflecting the teachers' beliefs about reading acquisition (either a bottom-up response or a top-down response), 2) a response which did not reflect beliefs about reading acquisition (non-reading-rationale-response) or 3) a response in which not enough information was given to be able to rate the response as bottom-up or top-down (not-enough information response.) A response was rated as a not-enough-information response when the interviewer could have probed for more information for the response to be rated as a response reflecting a belief about reading acquisition (either bottom-up or top-down).

A response was rated as a non-reading-rationale response when the teacher gave a rationale for reading instructional behavior which was not related to beliefs about reading acquisition. For example, one teacher said "I don't correct a child while he is reading because it is too frustrating for the child if I do so." This teacher does not correct her students' oral reading errors. She follows this practice, not because of beliefs about reading acquisition, but rather because of beliefs about frustrating students.

Only 13 or 7% of the total responses to the interview questions were

rated as not reflecting beliefs about reading acquisition. (The total responses here refer to the total possible responses, 200, minus the number of responses rated as not-enough-information-given responses.) Thus, 93% of the responses given in the Conceptual Frameworks of Reading Interviews by these twenty teachers did reflect their beliefs about the learning to read process.

Teachers' Discussion of Significant Issues of the Learning to Read Process in the Interviews

The third area to be examined in determining if the Conceptual Framework of Reading Interview elicits constructs of the learning to read process will be addressed in this section: the investigator determined significant issues which were discussed by teachers during the interview.

Drawing from actual interview responses, the following issues discussed by teachers in the Conceptual Framework of Reading Interviews will be presented:

Issue 1: Some of the teachers interviewed made statements which indicated they were aware of the two positions on the learning to read process (named bottom-up and top-down by the investigator) and took a stand in favor of one of them.

Issue 2: Some of the teachers interviewed made statements which indicated they held a bottom-up position (Students learn to read by learning decoding skills) for younger and less able readers but that they held a top-down position (Students learn to read by reading meaningful material) for older and more able readers.

Issue 3: One teacher interviewed discussed how reading is an <u>end</u> for instructional situations but that reading is a <u>means</u> to gain information in real world situations.

Issue 1

Some of the teachers interviewed made statements which indicated they were aware of the two positions of the learning to read process (labeled

bottom-up and top-down by the investigator) and took a stand in favor of one of the two positions. The interview responses of two teachers will be presented to illustrate this.

Teacher F (no. 40), rated as holding a Moderate Top-down Conceptual Framework of Reading, responded:

> Sometimes we forget it's supposed to be reading---it's not supposed to be a dissection.

In a latter portion of the interview this same teacher said:

> "Skills are necessary and so are games to reinforce these skills. These are needed so that children can decode... but actual reading makes you a better reader.

This teacher stresses "skills are necessary"(a bottom-up position) but she takes a stand for a top-down position--- "actual reading makes you a better reader."

Interview responses from Teacher G (no.4) also illustrate that she was aware of the two positions of the learning to read process. Teacher G, rated as holding a Moderate Bottom-up Conceptual Framework of Reading responded in the following manner to the question "What do you hope your students do when they come to an unknown word during USSR(Sustained Silent Reading)?

...sound it out, I'm not too much on students using sentence clues and all. Suppose the story said,

"The banana fell off the table.
The bongo fell off the table.
The baboon fell off the table."

The sentence is the same and they say students can look at the beginning and end of the sentence. But it could be a story about a jungle.

"The baboon was in the tent with a bongo and a banana."

Context just doesn't help. But students can get it close enough by sounding it out.

Teacher G is acknowledging that some people advocate that students use context or meaning cues to determine unknown words (a top-down position), but she feels students should use letter-sound cues to determine unknown words (a bottom-up position).

In summary, some of the teachers' responses in the interview indicated that they were aware of the two position of the learning to read process (labeled bottom-up and top-down by the investigator) and took a stand in favor of one of the two positions.

Issue 2

Some of the teachers interviewed made statements which indicated they held a bottom-up position (Students learn to read by learning decoding skills.) for younger and less able readers but that they held a top-down position (Students learn to read by reading meaningful material.) for older and more able readers. These teachers advocated reading instructional procedures for younger and less able readers which focused the students' attention on letters, sounds, and words; they advocated reading instructional procedures for older and more able readers which focus students' attention on sentence and selection level cues or on reading for meaning.

For example, Teacher H, (no.2), a first grade teacher rated as holding a Strong Bottom-up Conceptual Framework of Reading, responded in this manner when asked "What do you do when a student mades an oral reading error?"

> It depends on the student. When top readers say "house for home" then I wouldn't do anything. With bottom readers I would stop their reading and say "Let's look at that word. It it really house?" Then I would have the child sound it out.

Teacher H would not interfere in the oral reading of a more able reader that made an oral reading error which did not disrupt the meaning of the

sentence. However, she states that if a less able reader made the same oral reading error (one which does not distort the meaning of the sentence) she would stop his/her reading and focus his/her attention on sound-letter cues.

Teacher I. (no.66) is a second example of how some teachers advocate emphasizing lower order linguistic cues (words, letters, sounds) with younger, less able readers and not with older more able readers. Teacher I., a second grade teacher rated as holding a Moderate Top-down Conceptual Framework of Reading said,

> I feel that vocabulary comes along from context (for second graders). Students can pick up vocabulary in context. This is not so in first grade. In first grade you need to introduce vocabulary. It's of little importance in second grade.

Teacher I., then, thinks that more able readers can use higher order linguistic cues to determine words. This is a top-down position. But she thinks that less able readers need to be introduced to words, which is a bottom-up position.

In addition to advocating focusing younger, less able readers' attention on sounds, letters and words, some teachers advocate focusing older, more able readers' attention on higher order linguistic cues. Responses of Teacher J. illustrate this. Teacher J (no.48) teaches the "low group" of first graders and was rated as holding a Strong Bottom-up Conceptual Framework of Reading. In rank ordering the steps of the Directed Reading Procedure in order of importance, she ranked Setting Purposes for Reading and Reaction to Silent Reading as last in importance because:

> I don't even have my students read the story silently. I think with older students, the Setting Purposes and Reaction to Silent Reading would be more important.

In summary, responses of some of the teachers indicated they advocated instructional procedures which emphasize words, letters and sounds (bottom-up position) for younger and less able readers and they advocated instructional

procedures which emphasized reading for meaning (top-down position) for older and more able readers.

Issue 3

One of the teachers interviewed, Teacher K. (no. 28), discussed a third issue: reading is an end in instructional situations, but reading is a means to gain information in "real world" situations. Teacher K., a third grade teacher rated as holding a Moderate Top-down Conceptual Framework of Reading said:

> In school children read so that they can learn to read, but we as adults read to gain information.

At another point in the interview Teacher K. responded to the question "Why is setting purposes for reading important?" in the following manner:

> We know what the reason is--- they've got to learn to read, but they still need a reason to read in school.

In sum, this teacher thinks that in school students read in order to learn to read (reading as an end), while in "real life" situations reading is a means to gaining information.

Summary of Phase 2 Analysis

In Phase 2 Analysis the following question was addressed: "Does the Conceptual Framework of Reading Interview elicit constructs of the learning to read process held by teachers?" First the investigator analyzed the responses to ten questions asking for descriptions of behaviors and rationales for these behaviors given during the Conceptual Framework of Reading Interviews. Through analysis of the responses to these ten questions, each of the twenty teachers interviewed could be identified as holding either a Strong Bottom-up , Moderate Bottom-up, Moderate Top-down, or Strong Top-down Conceptual Framework of Reading. Teachers rated as holding Strong Bottom-up and

procedures which emphasized reading for meaning (top-down position) for older and more able readers.

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In Phase 2 Analysis the following question was addressed: "Does the Conceptual Framework of Reading Interview elicit constructs of the learning to read process held by teachers?" First the investigator analyzed the responses to ten questions asking for descriptions of behaviors and rationales for these behaviors given during the Conceptual Framework of Reading Interviews. Through analysis of the responses to these ten questions, each of the twenty teachers interviewed could be identified as holding either a Strong Bottom-up , Moderate Bottom-up, Moderate Top-down, or Strong Top-down Conceptual Framework of Reading. Teachers rated as holding Strong Bottom-up and

Strong Top-down Conceptual Frameworks of Reading through the operational definitions of these constructs gave no inconsistent responses. (An inconsistent response for a basically bottom-up teachers is a top-down response; an inconsistent response for a basically top-down teacher is a bottom-up response.) The Moderate Top-down teachers gave slightly more inconsistent responses than did Moderate Bottom-up teachers.

In addition, the investigator looked critically at the interviews of the teachers to determine 1) the extent their construct systems of the learning to read process were internally consistent and 2) the extent and how their construct systems of the learning to read process differed from the extreme or strong forms of the Conceptual Frameworks of Reading. The construct systems of the learning to read process held by teachers rated as holding Strong Bottom-up and Strong Top-down Conceptual Framework Reading were essentially those previously defined as Bottom-up and Top-down Con-Ceptual Framework of Reading. By analyzing the responses of the teachers rated as holding Moderate Bottom-up and Moderate Top-down Conceptual Frameworks of Reading, the investigator found some patterns of beliefs held by moderate bottom-up teachers and by moderate top-down teachers. Drawing from interview responses given by teachers, moderate bottom-up and moderate top-down positions on the learning to read process were described. These patterns of beliefs or the construct systems of the learning to read process held by the four groups of teachers (Strong Bottom-up, Moderate Bottom-up, Moderate Top-down, Strong Top-down) were arranged on a continuum from strong bottom-up beliefs to moderate bottom-up beliefs to moderate top-down beliefs to strong top-down beliefs.

However, it was noted that not all the construct systems of the teachers rated as holding Moderate Bottom-up and Moderate Top-down Conceptual Frameworks of Reading could be described as being as internally consistent and as relating

to the Bottom-up and Top-down Conceptual Frameworks of Reading as the examples described. But no teacher made statements which contradicted his or herself, i.e. no teacher seemed to have conflicting beliefs. Rather when teachers gave both bottom-up and top-down responses it seemed as if they had not seen connections among the issues involved. An example of this was described.

Besides analyzing the teachers' responses to the ten interview questions, the investigator also noted if the teachers mentioned certain assumptions about the learning to read process at any point in the interview. Teachers identified as holding a Strong Bottom-up Conceptual Framework of Reading (identified through analysis of responses to ten questions concerning instructional behavior.) mentioned only Bottom-up assumptions. Likewise, teachers holding Strong Top-down Conceptual Frameworks of Reading (identified through analysis of descriptions of behavior) mentioned only top-down assumptions. Moderate Bottom-up and Moderate Top-down teachers mentioned both kinds of assumptions. Generally, Moderate Bottom-up teachers mentioned more bottom-up assumptions and Moderate Top-down teacher mentioned more top-down assumptions. Interrater reliability estimates of .95 and .73 were established for the two analysis systems: 1) the overall ratings of Strong Bottom-up, Moderate Bottom-up, Moderate Top-down and Strong Top-down Conceptual Frameworks, and 2) the mention of beliefs or assumptions about the learning to read process, respectively.

Further, ninety-one per cent of the teachers, responses in the Conceptual Framework of Reading Interview referred to beliefs about the learning to read processes. Finally, teachers discussed three significant issues concerning the learning to read process and reading instruction during the Conceptual Framework of Reading Interviews. These issues were presented using responses given by teachers during the interviews.

CONCLUSIONS AND IMPLICATIONS

The major difference between this study and other studies of teachers' belief system toward reading and reading instruction is that this study investigated teachers' models or theoretical frameworks of the learning to read process and the other studies investigated conceptions of reading instruction. In this study the models of two theorists, S. J. Samuels and K. Goodman, were used as standards in comparing teachers' belief systems of the learning to read process. The models of these two theorists were chosen because they each represent one of the two main types of information processing models, bottom-up and top-down respectively. Drawing from the writings of these two theorists and from investigations conducted by researchers at the Michigan Institute for Research on Teaching, two construct systems of the learning to read process were defined. These were named the Bottom-up and Top-down Conceptual Frameworks of Reading after the two types of information processing models. The Conceptual Framework of Reading Interview was devised to elicit specific beliefs within these construct systems. Through analysis of teachers' responses in this interview, teachers were reliably identified as holding Strong Bottom-up, Moderate Bottom-up, Moderate Top-down, and Strong Top-down Conceptual Frameworks of Reading.

The analysis of the interview responses suggests that the relationship between the Bottom-up and Top-down Conceptual Frameworks of Reading is a continuum and not a dicotomy. Where on this continuum a teacher's belief system lies is a matter of the emphasis placed on different level of language and the assumptions about the learning to read process made. Teachers taking an extreme or strong bottom-up position tend to emphasize lower order units instructionally and to believe that students learn to read by learning decoding

skills. Teachers holding a moderate bottom-up position emphasize sounds, letters and words instructionally, but under some circumstances these teachers focus the students' attention on reading for meaning. Moderate bottom-up teachers also believe that students learn to read by learning decoding skills. On the other hand, teachers holding both a moderate and strong top-down position believe that students learn to read by reading meaningful material. Teachers taking an extreme top-down position emphasize higher order units instructionally.

Teachers taking a more moderate top-down position usually emphasize higher order linguistic units (sentences, selection), but under some circumstances focus students' attention on words, sounds and letters. Further, drawing from the interview data, patterns of specific beliefs held by teachers on the continuum of strong bottom-up, moderate bottom-up, moderate top-down and strong top-down positions could be described.

In addition to being able to identify teachers as holding specific Conceptual Frameworks of Reading, the investigator also elicited assumptions made about the learning to read process held by the teachers interviewed. As would be expected, the teachers varied in the connections they perceived between instructional practices advocated and assumptions made about the learning to read process. Also, a large proportion (91%) of the responses given in the Conceptual Framework of Reading Interviews elicited beliefs about the learning to read process, as opposed to beliefs about other aspects of teaching. Further, some of the teachers raised the issue that there are the two positions toward the learning to read process named bottom-up and top-down by the investigator. This further validates that these are constructs "inside the heads" of teachers.

A second issue raised by teachers during the interview is supported by Michigan IRT investigations. Through interviewing teachers, IRT researchers also found that many teachers advocate emphasizing lower order linguistic units (letters, sounds, words) with younger, less able readers and advocate emphasizing higher order linguistic units and reading for meaning with older, more able readers. The IRT researchers used the terms "content centered" conceptions and "pupil centered" conceptions respectively for the two instructional approaches. (Metheny, 1980)

A third issue raised in the teacher interviews has not been discussed extensively in the reading literature. This issue is that reading is an end for instructional situations but is a means to gain information in real world situations. This issue raised important questions about reading instruction, e.g. To what extent is reading instruction an artificial situation and therefore an unnecessarily demanding situation for young students? To what extent should teachers set up instructional situations in which reading is a means to gain information?

In conclusion, the Bottom-up and Top-down Conceptual Frameworks of Reading do seem to be construct systems held by teachers. These two construct systems can be placed on a continuum and are not a dicotomy.

Implications for Reading Educators and Researchers

The authors of the 1981 National Institute of Education call for proposals state the following:

> The Reading and Language Division views reading as an interactive process..., as a constructive process, as a strategies process...; and as a process that must be adapted to the discourse structure of the text being read... This view is... consonant with the view held by most reading researchers.

> This position is, however, in sharp contrast to the view that dominates reading instruction today. Most current instruction proceeds from assumptions that letters are decoded into sounds, the sounds are blended into words, and then the readers' knowledge of the spoken language provides access to meaning.
>
> We believe that a shift in practice will inevitably occur, toward the conceptions now held by researchers... However, we feel that some concerted effort should be made to insure a timely and reasoned approach to the process of bringing instruction into closer contact with research findings. (No page number given)

In this passage the NIE staff is not discussing the use of differing reading instructional methodologies. Essentially the NIE staff is saying that they hpld a top-down position of the learning to read process and that this position is supported by reading researchers. Second, they claim that most reading practitianers hold a bottom-up conception of the learning to read process. Third, they call for a "reasoned approach" to changing instructional practices toward the top-down position. Since the Conceptual Framework of Reading Interview elicits teachers' beliefs concerning these two positions, it is a potentially useful instrument to measure any such attempts to change teachers' implicit theories of reading.

A second implication of this study of reading educators is related to the question of the relationship between teachers' belief systems of reading and their instructional decision making. There is support for the assumption that the belief systems of reading held by teachers influence their instructional decision making. (Barr & Duffy, 1978; Bawden, Burke & Duffy, 1979) Further research investigating this relationship is needed. A third phase of this study, not reported here, explored the extent and how Conceptual Frameworks of Reading influence instructional decision making in directed reading lessons involving oral reading.

Assuming this relationship exists, then, teacher educators need to encourage both pre-service and in-service teachers to be aware of what these belief systems are and how they make a difference in how teachers teach. Also, teacher educators need to encourage teachers to see how differing practices logically follow from knowledge and belief systems of the learning to read process. This approach to teacher education differs from the approach in which specific practices are taught to pre- and in-service teachers.

Third, if instructional practices are guided by teachers' belief systems of reading and reading instruction, then researchers need to investigate the relationship between teachers' belief systems and how their students respond to print. This research could look at the reading strategies used by students as well as the conceptions of reading held by students.

Implications for Reading Researchers and Theorists

Further research and theorizing on teachers' implicit theories of reading should not lead to isolation and division of groups of reading educators. Rather, educators holding differing views of the learning to read process could work together to develop more comprehensive models. Rumelhart (1976) concluded the paper in which he defined and classified reading models as bottom-up and top-down by outlining an interactive model of reading. He cited research which indicates skilled readers use both upstream (lower order linguistic cues influencing higher order linguistic cues) and down-stream effects (higher order linguistic cues influencing lower order linguistic cues). Perhaps an interactive model of the learning to read process could be divised that could help teachers decide under what conditions lower order linguistic cues and

higher order cues should be emphasized in aiding students in becoming efficient and effective readers.

Code emphasis reading programs in grades one and two based on bottom-up assumptions have been shown to be related to higher reading achievement than have programs which emphasize to a lesser extent the teaching of sound-letter associations. (Phlaum et. al., 1980) On the other hand, research on the processes used by skilled readers clearly indicated they use top-down processes to a great extent. Perhaps there is some validity to the belief held by many of the teachers that bottom-up instructional practices should be used with younger, less able readers and top-down instructional practices with older, more able readers. A crucial question for both the theorist and the teacher taking this position is when the shift in emphasis should be made. Continuing to emphasize lower order cues instructionally could inhibit the reading growth of these younger, less able readers. Some insights into these issues could be obtained from studies which examine reading acquisition developmentally. For example, Biemiller (1970) after analyzing the oral reading errors of first graders concluded that first grade students learning to read go through the following phases: phase 1) predominant use of contextual constraints, phase 2) predominant use of graphic constraints, and phase 3) coordinated use of both graphic and contextual constraints. More developmental research is needed to determine how clear-cut these phases are as well as how differing instructional orientations would affect students in each of these phases. This kind of research and theorizing could lead to a decision making model to guide teachers' reading instructional decision making.

Finally, researchers and theorists investigating teachers' implicit theories of reading should consider the power of investigating teachers'

implicit theories of reading on their instructional decision making. The small body of literature in this area seems to have more power in explaining reading instructional behavior than do teacher effectiveness studies which look at teacher attributes, reading instructional methods, or use some form of interaction analysis. However, a fundamental issue seems to be whether this is a sufficiently inclusive construct for explaining important influences on the teaching of reading. The Michigan IRT ethnographic studies indicated that in addition to conceptions of reading, other aspects of the teaching environment influence reading instructional decision making. For example, reading tests mandated on a system-wide basis affected teachers' instructional decisions. Also in this study, teachers' conceptions of their administrators' beliefs about reading instruction seemed to affect their instructional decision making. By considering these kinds of influences in addition to teachers' implicit theories of reading, research in this area could have further power in explaining the decision making processes used by teachers while teaching reading.

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